IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (Currently Amended): A dosing pump for a liquid additive in fuel of a heavy fuel engine, said pump comprising:

a piston;

a cylinder; ~~and~~

an actuator for moving the piston axially in the cylinder, wherein the actuator is a high resolution linear actuator,

a manifold, and

a low friction dish-shaped seal having a peripheral portion forming a seal between the cylinder and the manifold in a fully extended position of the piston, said dish-shaped seal further having a top portion attached to the piston and moving with the piston such that said top portion of the seal is compressed against the manifold in said fully extended position of the piston.

Claim 11 (Currently Amended): The dosing pump according to claim 10, ~~further comprising a~~ wherein said manifold ~~having~~ has at least one inlet and one outlet check valve that are passive, one-way valves.

Claim 12 (Previously Presented): The dosing pump according to claim 10, wherein said pump is a syringe pump of which the piston contacts a solid surface at an end of each dose cycle.

Claim 13 (Previously Presented): The dosing pump according to claim 10, wherein the linear actuator is driven by a rotary electric motor through a gear reduction.

Claim 14 (Currently Amended): The dosing pump according to claim 10, wherein said heavy fuel engine defines a maximum dose of additive for optimal conditions and said pump has a capacity equal to ~~a~~ said maximum dose ~~required~~ so that a required additive volume is always dispensed through only one cycle of the pump.

Claim 15 (Currently Amended): The dosing pump according to claim 10, wherein said heavy fuel engine defines a maximum dose of additive for optimal conditions and said pump has a capacity lower than ~~a~~ said maximum dose so that a required additive volume is dispensed through one or more pump cycles.

Claims 16-17 (Canceled).

Claim 18 (Previously Presented): A fuel system comprising a liquid fuel additive dosing pump according to claim 10.